D44 1129/339 8HR FLASH TWX LMSC 6030350, cy 2

JOINT MESSAGEFORM

SECURITY CLASSIFICATION [redacted] [redacted]

SPACE BELOW RESERVED FOR COMMUNICATION CENTER

CLASSIFICATION CHANGED TO [redacted]

By Authority of AFR 205-2

APR 1966

File R&D 1-2-1 AB

XLIV

PRECEDENCE	TYPE MSG (UNMSD)			ACCOUNTING SYMBOL	ORIG. OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION	BOOK	MULTI	SINGLE			
INFO						

FROM:

6595 AEROSPACE TEST WG VANDENBERG AFB, CALIF.

TO:

SPACE SYSTEMS DIV LOSA CALIF

VWZD-23-6-152-S

SPECIAL INSTRUCTIONS

SUBJECT: 8-HOUR LAUNCH FLASH REPORT

I. A PROGRAM 622A VEHICLE CONSISTING OF THOR BOOSTER NO. 339 AND AGENA B ORBITAL STAGE NO. 1129 WAS LAUNCHED ON THE FIRST ATTEMPT FROM VAFB COMPLEX 75-3 PAD 4 AT 1730:46.80 PDT ON 22 JUNE 1962. THE PRIMARY LAUNCH OBJECTIVE, TO PLACE THE AGENA SATELLITE WITH PAYLOAD IN A NEAR-POLAR ORBIT, WAS ACCOMPLISHED, HOWEVER, THE ORBITAL PERIOD APPEARS TO BE SLIGHTLY LESS THAN NOMINAL. READINGS FROM THE VTS RADAR PLOTTING BOARD GAVE AN INJECTION ALTITUDE OF 135 STATUTE MILES, AN INJECTION PAD REFERENCED VELOCITY OF APPROXIMATELY 25,320 FPS, AN INJECTION FLIGHT PATH ANGLE OF ABOUT 0 DEG, AND AN INITIAL DEPARTURE

CY ___ OF ___ C/S

DATE	TIME
22	
MONTH	YEAR
Jun	62

SYMBOL

WRITER

TYPED NAME AND TITLE (Signature, if required)
C. S. WALLER, LT. COL USAF

PHONE 85831 PAGE NR. 1 NR. OF PAGES

SECURITY CLASSIFICATION [redacted] [redacted]

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DOWNGRADED AT 3 YEAR INTERVALS;
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DOD DIRECTIVE 5200.10

DD FORM 1 MAY 55 173 REPLACES DD FORM 173, 1 OCT 49, WHICH WILL BE USED UNTIL EXHAUSTED

JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION [redacted] [redacted]

FROM:

6595 AEROSPACE TEST WG VANDENBERG AFB, CALIF.

FLIGHT AZIMUTH OF APPROXIMATELY 172 DEG. THE INFLIGHT YAW LEFT MANEUVER DURING THE LATTER PART OF THOR BOOST APPEARS TO HAVE BEEN SUCCESSFULLY ACCOMPLISHED. TRACKING STATIONS AT KODIAK AND VANDENGERG AFB HAVE CONFIRMED ORBITAL STATUS THROUGH RECEPTION OF TELEMETRY AND RADAR BEACON SIGNALS ON THE FIRST ORBITAL PASS.

A LIST OF SIGNIFICANT LAUNCH EVENTS FOLLOWS (NOTE: THE LIFTOFF TONE WAS NOT RECEIVED AT VANDENBERG TRACKING STATION. LIFTOFF TIME IS DERIVED FROM AGENA ACCELEROMETER AND THOR COMBUSTION CHAMBER PRESSURE TRACES).

LIFTOFF (1730:46.80 PDT)	ZERO	
~~STEERING~~ INITIATED	91.45	SEC
MECO (S1)	148.84	SEC
VECO	157.82	SEC
ENABLE D1 AND D2 (S2)	153.95	SEC
D1 ON	156.65	SEC
D1 OFF	159.51	SEC
D2 ON	159.78	SEC
D2 OFF	166.65	SEC
SEPARATION COMMAND (S3)	167.22	SEC

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JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION [redacted] [redacted]

FROM

6595 AEROSPACE TEST WG VANDENBERG AFB, CALIF.

AGENA IGNITION (90 PER CENT PC)	194.6	SEC
AGENA BURNOUT (70 PERCENT PC)	430.7	SEC
VTS VERLORT RADAR FADE	455	SEC
VTS ACQUISITION BEACON FADE	491	SEC
VTS TELEMETRY DATA FADE (LINK 1)	484	SEC

II. PRELIMINARY EVALUATION INDICATES THAT LAUNCH TEST OBJECTIVES WERE ACHIEVED AS FOLLOWS: (REF. DETAILED TEST OBJECTIVES, LMSC 446404, SECTION 2)

A. THOR BOOSTER - OBJECTIVE ACHIEVED

BOOSTER IGNITION AND LIFTOFF WERE SATISFACTORY. THE THOR ROLL PROGRAM AND PITCH PROGRAM APPEAR TO HAVE BEEN PROPERLY EXECUTED. THE PROGRAMMED YAW-LEFT MANEUVER DURING THOR MID-BOOST WAS SATISFACTORILY ACCOMPLISHED.

BOOSTER STEERING AND EVENT COMMANDS WERE GENERATED AND TRANSMITTED SATISFACTORILY BY THE GROUND GUIDANCE SYSTEM AND VEHICLE RESPONSE TO THE COMMANDS APPEARS TO HAVE BEEN PROPER. MECO OCCURRED AT 148.84 SEC AS A RESULT OF COMMAND FROM GROUND GUIDANCE SYSTEM. VERNIER ENGINE SOLO OPERATION LASTED 8.98 SEC WITH VECO OCCURRING AT

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☆ U. S. GOVERNMENT PRINTING OFFICE: 1958—530478

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FROM:

6595 AEROSPACE TEST WG VANDENBERG AFB, CALIF.

157.82 SEC. SEPARATION WAS INITIATED BY A GROUND GUIDANCE COMMAND AT 167.22 SEC. GROUND GUIDANCE SY SYSTEM DATA INDICATE THE BOOSTER COAST APOGEE ALTITUDE WAS 104.29 NM (NOMINAL: 106.95 NM) AND THE BOOSTER COAST APOGEE VELOCITY WAS 10,031 FPS (NOMINAL: 10,044 FPS).

B. SATELLITE VEHICLE - OBJECTIVES ACHIEVED

1. AGENA AIRFRAME AND ADAPTER

STRUCTURAL INTEGRITY WAS MAINTAINED AND NO EXCESS LOADS WERE APPLIED. STAGE SEPARATION WAS INITIATED AT T+167.2. THE RETRO-ROCKETS SATISFACTORILY PROVIDED THE THRUST NECESSARY FOR COMPLETE SEPARATION BY T+169.6 SEC.

THE ATTITUDE CONTROL SYSTEM INDICATED MISALIGNMENT OF THE ULLAGE ROCKETS. THE AGENA TURBINE EXHAUST STACK WAS MISALIGNED BY APPROXIMATELY 1 DEG. NO ABNORMALITIES HAVE BEEN OBSERVED IN THE AGENA VEHICLE TEMPERATURE DATA. THE DATA INDICATES THE PERFORMANCE OF THE PYROTECHNICS WAS SATISFACTORY.

2. AGENA PROPULSION SYSTEM

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FROM:

6595 AEROSPACE TEST WG VANDENBERG AFB, CALIF.

ULLAGE ROCKET IGNITION WAS SATISFACTORY. AGENA ENGINE IGNITION OCCURRED IN A NORMAL MANNER AT T+193.4 SEC AND 90 PERCENT CHAMBER PRESSURE WAS ACHIEVED WITHIN 1.2 SEC. THE ENGINE OPERATED SATISFACTORILY FOR 236.1 SEC AND ENGINE SHUTDOWN OCCURRED AT T+430.7 SEC ON INTEGRATOR COMMAND. THE INTEGRATOR DATA SHOW A SENSIBLE VELOCITY GAIN OF 15,755 FPS (INCLUDING THRUST TAILOFF AND BIAS FOR SYSTEMATIC ERRORS) DURING ORBITAL STAGE BOOST, THE IMPULSE PROVIDED BY THE AGENA ENGINE WAS SUFFICIENT TO GIVE THE VEHICLE ORBITAL VELOCITY AT THE FLIGHT INJECTION ALTITUDE.

3. AGENA ELECTRICAL POWER SYSTEM

AN APPARENT MALFUNCTION OF THE 400 CPS, PHASE BC VOLTAGE OCCURRED AT 160.5 SEC, AT WHICH TIME THE INDICATED VOLTAGE RAPIDLY DROPS TO ZERO. HOWEVER, THE INDICATED VOLTAGE DROP IS BELIEVED TO BE A TRANSDUCER MALFUNCTION, SINCE THE OVERLOAD AND VOLTAGE MONITORS ON THE HORIZON SCANNER AND IRP 400 CPS PHASE BC VOLTAGE READ NORMAL THROUGHOUT THE ASCENT PHASE.

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FROM:

6595 AEROSPACE TEST WG VANDENBERG AFB, CALIF.

AN UNUSUAL CURRENT SURGE WITH A PEAK VALUE OF ABOUT TWICE NORMAL CURRENT IS INDICATED ON THE BATTERY CURRENT MONITOR FROM 170.5 SEC TO 171.2 SEC. THE ONLY SWITCHING FUNCTION AT THIS TIME IS A BACK-UP SIGNAL TO UNCAGE THE IRP GYROS WHICH NORMALLY WOULD NOT CAUSE SUCH A CURRENT SURGE. NO UNUSUAL CURRENT VALUES WERE NOTED AFTER 171.2 SEC.

4. AGENA GUIDANCE FLIGHT CONTROL SYSTEM

THE AGENA GUIDANCE SYSTEM RESPONDED PROPERLY TO A 9.72 SEC TIME-TO-FIRE CORRECTION AND A 287 FPS VELOCITY-TO-BE-GAINED CORRECTION COMMANDED BY THE GROUND GUIDANCE SYSTEM. VEHICLE ATTITUDE APPEARS TO HAVE BEEN CONTROLLED SATISFACTORILY DURING THE COAST PHASE AND THE ORBITAL BOOST PHASE, BUT CONTROL GAS EXPENDITURE WAS GREATER THAN NORMAL, DUE TO APPARENT MISALIGNMENT OF THE TURBINE EXHAUST. PRELIMINARY CALCULATIONS INDICATE THAT APPROXIMATELY 17 LBS OF CONTROL GAS WAS EXPENDED. 8 TO 10 LBS. IS CONSIDERED NORMAL. ENGINE SHUTDOWN WAS COMMANDED SATISFACTORILY BY THE INTEGRATOR, AND THE ASCENT TIMER [redacted]

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FROM:

6595 AEROSPACE TEST WG VANDENBERG AFB, CALIF.

PROPERLY CONTROLLED THE TIME AND SEQUENCE OF ALL PORGRAMMED EVENTS THAT WERE SCHEDULED TO OCCUR PRIOR TO LOSS OF TELEMETERED DATA AT VTS. HYDRAULIC SYSTEM PERFORMANCE WAS ADEQUATE.

5. AGENA SPA CE COMMUNICATIONS SYSTEM

OPERATION OF THE ACQUISITION BEACON AND THE RADAR BEACON WAS SATISFACTORY. VTS TRACKED THE ACQUISITION BEACON FROM LIFTOFF TO 484 SEC ON THE TRI-HELIX ANTENNA AND TO 491 SEC ON THE TLM-18 ANTENNA. THE RADAR BACON WAS TRACKED FROM LIFT-OFF TO 495 SEC. AT T+484 SEC, THE TIME OF LINK 1 TELEMETRY DATA FADE FOR VTS, ALL TELEMETRY CHANNELS WERE OPERATING. AT THIS TIME THE ORBITAL TIMER WAS SET AT 5438 SEC (STEP 19), IN THE RESET-ON POSITION, IN THE INCREASE MODE, AND ALTERNATE RE-ENTRY DISARM STATE. AGENA LINK 2 TELEMETRY WAS RECEIVED FROM LIFTOFF TO 491 SEC. NO GROUND COMMANDS WERE SENT DURING THE ASCENT PHASE. TRACKING STATION COMMUNICATION DURING THE LAUNCH OPERATION WERE ADEQUATE HOWEVER. THE LIFTOFF SIGNAL WAS NOT RECEIVED AT VTS.

5343
95
5438 sec

cleared
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FROM:

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C. AEROSPACE GROUND EQUIPEMNT - OBJECTIVE ACHIEVED

BOOSTER AND ORBITAL STAGE CHECKOUT WAS SATISFACTORILY ACCOMPLISHED DURING THE PRE-LAUNCH COUNTDOWN BY THE AEROSPACE GROUND EQUIPMENT; HOWEVER, THE ~~FOLLOWING~~ PROBLEMS WAS ENCOUNTERED: DURING THE TERMINAL COUNTDOWN, THE THOR FUEL LOADING COMPUTER (AGE) DELAYED IN INDICATING 95 AND 100 PER CENT FUEL LOAD. THE 95 AND 100 PER CENT FUEL LOADS CONDITIONS WERE SIMULATED FROM THE BLOCKHOUSE CONSOLE. THE LIFTOFF TONE WAS NOT PROPERLY GENERATED.

D. COUNTDOWN

THE COUNTDOWN WAS INITIATED ~~AT 1000 [illegible]~~ ON 22 JUNE 1962 AND PROGRESSED TO LIFTOFF AT 1730:46.8 PDT. NO HOLDS WERE IMPOSED DURING THE COUNTDOWN. THE ONLY PROBLEM ENCOUNTERED WAS WITH THE THOR FUEL LOADING COMPUTER WHICH DELAYED IN INDICATING 95 AND 100 PER CENT FUEL LOAD. THE FUEL LOAD CONDITIONS WERE SIMULATED FROM THE BLOCKHOUSE CONSOLE.

E. PAD DAMAGE

DAMAGE TO THE PAD EQUIPMENT AND FACILITIES

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FROM:

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WAS NORMAL, AND THE REHABILITATION WORK IS EXPECTED TO BE SIMILAR TO THAT AFTER PREVIOUS LAUNCHES FROM THIS PAD.

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☆ U. S. GOVERNMENT PRINTING OFFICE: 1959—530479